

4.2.3.2 Site Infrastructure

The INEL infrastructure would be capable of supporting any of the storage alternatives without major modifications to the existing infrastructure. A comparison of site infrastructure and facilities resource needs for the various storage alternatives is shown in Table 4.2.3.2-1.

Preferred Alternative: No Action Alternative

INEL would continue Pu storage at ANL-W. No change to the baseline infrastructure is anticipated, and no additional environmental impacts would be expected.

Upgrade Alternative

Upgrade Without Rocky Flats Environmental Technology Site Plutonium or Los Alamos National Laboratory Plutonium Subalternative

Modify Existing and Construct New Argonne National Laboratory–West Facilities for Continued Plutonium Storage

Modifying the existing storage facility plus building a new facility to accommodate long-term storage of existing quantities of Pu at INEL would have minimal impact on site infrastructure. Data for construction are presented in Appendix C. [Text deleted.] As shown in Table 4.2.3.2-1, the INEL infrastructure would be capable of supporting the modification of the existing storage facility without major improvements. Adequate electrical energy is available from the regional power grid. [Text deleted.] All infrastructure requirements are within site capacities.

Upgrade With All or Some Rocky Flats Environmental Technology Site Plutonium and Los Alamos National Laboratory Plutonium Subalternative

Modify Existing and Construct New Argonne National Laboratory–West Facilities for Continued Plutonium Storage

To accommodate material currently at the site, plus the relocation of material from RFETS and LANL, the ANL-W storage capacity would be upgraded by constructing a new 2,550 m² (27,400 ft²) Material Handling Building to augment modified existing support buildings and by using balance of plant facilities. Building 704 would be modified for an additional 4,100 storage positions above that of the baseline upgrade, while Buildings 774 and 775 would be modified for storage support. The buildings would be interconnected by a new material transfer access corridor.

Construction for upgrading the existing storage facility, plus building a new facility to accommodate long-term storage of existing quantities of Pu, plus material relocated from RFETS and LANL would have minimal impact on site infrastructure. Data for construction are presented in Appendix C. As shown in Table 4.2.3.2-1, additional electrical energy, and peak load would be required to operate the facility. The INEL infrastructure would be capable of supporting the modification of the existing storage facility, plus building a new facility to accommodate long-term storage of existing quantities of Pu, plus material relocated from RFETS and LANL without major improvements. Adequate electrical energy is available from the regional power grid. [Text deleted.] All infrastructure requirements are within site capacities.

Since impacts associated with relocating all of the RFETS Pu and LANL Pu material to INEL for long-term storage are minimal for construction and can be managed for operations, relocating only a portion of this material to INEL would result in minimal impacts on the site infrastructure as well. Additional annual electrical energy requirements would be proportionately less than the 700 MWh/yr required for storage of the full amount of RFETS Pu and LANL Pu material, depending on the amount of material relocated to the site.

Consolidation Alternative

Construct New Plutonium Storage Facility

Under this alternative, all the Pu within the scope of this PEIS would be stored at a new storage facility located at INEL. Construction requirements would constitute a small change in resource requirements at INEL. Since coal availability is governed by usage and not by site storage capacity, the additional coal required could be procured through contractual means. Impacts on the site infrastructure would be negligible. The INEL infrastructure would be capable of supporting operation of the consolidated Pu storage facility without major modifications to the existing infrastructure. As shown in Table 4.2.3.2-1, less than 5 km (3 mi) of roads and less than 5 km (3 mi) of railroad lines would need to be added to the site. Adequate electrical energy is available from the regional power grid.

Collocation Alternative

Construct New Plutonium and Highly Enriched Uranium Storage Facilities

Under this alternative, all the HEU within the scope of this PEIS would be stored at INEL in a new storage facility, collocated with the consolidated Pu storage facility. Construction requirements would constitute a small change in resource requirements for INEL. Since coal availability is governed by usage and not by site storage capacity, the additional coal required could be procured through contractual means. As shown in Table 4.2.3.2-1, less than 5 km (3 mi) of roads and less than 5 km (3 mi) of railroad lines would need to be added to the site. The INEL infrastructure would be capable of supporting operation of the consolidated and collocated facilities without major modifications to the existing infrastructure. Adequate electrical energy is available from the regional power grid.

Subalternative Not Including Strategic Reserve and Weapons Research and Development Materials

Since the existing INEL site infrastructure would be fully capable of supporting construction/modification and operation of facilities for the Upgrade With All or Some RFETS Pu and LANL Pu, Consolidation of Pu, and Collocation of Pu and HEU Alternatives, constructing and operating such facilities without including provisions for storage of strategic reserve and weapons R&D materials could be accommodated as well. Expected reductions in amounts of annual electrical energy requirements for the various storage facilities are the only site infrastructure changes expected if this subalternative is chosen because electric usage is dependant on the amount of material. [Text deleted.]

Phaseout

Because of the relatively small amounts of Pu located on the site, INEL storage operations at ANL-W would be phased out with minimal impact on the site infrastructure.